This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

Claim 1 (Currently amended): A method for synchronizing a plurality of instances for a data platform, said method comprising:

storing a plurality of items in a first instance of a data platform, each item stored in the first instance includes at least one change unit, wherein the data platform is configured to track changes to change units;

storing, by the first instance of the data platform, a change to a first change unit of a first item, wherein the first item is a child of a parent item and the first item and the parent item are included in the plurality of items;

storing, by the first instance of the data platform after the change to the first change unit of the first item, a change to a parent change unit of the parent item;

uniquely enumerating, by the first instance of the data platform, changes to change units in ~~sequence~~ sequential order, ~~on an instance by instance basis~~ wherein each change is identified by ~~using~~ a change number;

maintaining, by the first instance of the data platform, a separate vector, wherein the separate vector corresponds to the enumerated changes to the first instance of the data platform, and a most recent known change number of a second instance of the data platform, wherein the separate vector represents all changes that have been made to the first instance of the data platform; ~~for each instance, each vector comprising a most recent change number for said its associated instance, and a most recent known change number for each other instances from among said plurality of instances that are known to said associated instance, each being a known instance, wherein said vector represents all changes that have been made to said associated instance.~~

receiving, by the first instance of the data platform from the second instance of the data platform, a synchronization request, wherein the synchronization request includes a second vector associated with the second instances of the data platform;

determining, by the first instance of the data platform, that the second instance of the data platform does not include the change to the first change unit of the first item and the change to the parent change unit of the parent item in accordance with the second vector; and

transmitting, by the first instance of the data platform, the change to the parent change unit of the parent item prior to transmitting the change to the first change unit of the first item.

Claim 2 (Original): The method of claim 1 wherein said change number comprises a unique identification number for said instance and a relative incremental count of changes made to said instance.

Claim 3 (Original): The method of claim 1 wherein a first instance, to partially synchronize with a second instance, requests changes from said second instance by sending to said second instance its vector, and wherein said second instance, based on the vector it receives from said first instance, sends to said first instance only those changes that said first vector has not yet received.

Claim 4 (Previously presented): The method of claim 3 wherein said second instance, based on the vector it receives from said first instance, further determines that said first instance has changes that said second instance has not yet received, and sends its own vector to said first instance to request these changes, and wherein said first instance, based on the vector it receives from said second instance, sends to said second instance only those changes that said second vector has not yet received.

Claim 5 (Previously presented): The method of claim 1 wherein a first instance, when changing a first Item to relate via a Relationship to a second Item that was not previously being synchronized, to send all change information pertaining to said second Item to a second instance when synchronizing with said second instance so that said second Item in said second instance is synchronized with said second Item in said first instance.

Claim 6 (Canceled)

Claim 7 (Original): The method of claim 1 wherein, for an Item deleted by a first instance, a tombstone comprising the identification of the Item deleted is created, and said tombstone is sent as part of a synchronization to notify a second instance to identify the Item to be deleted in said second instance.

Claim 8 (Previously presented): The method of claim 7 wherein, for a first instance having a parent Item and a first child Item to said parent Item, when said child Item is deleted and then said parent Item is deleted, said first instance sending only the change to said parent Item to a second instance during a synchronization where (a) the deletion of a parent Item automatically results in the deletion of all children Items for said parent or (b) the second instance, receiving the tombstone for the parent Item, proceeds to delete the parent Item and automatically deletes the child Item.

Claim 9 (Previously presented): The method of claim 1, wherein a first Relationship and a second Relationship of a first instance swap names using a temporary name element such that, in order, (a) the name of the first Relationship is transferred to said temporary name element, (b) the name of the second Relationship is transferred to said first Relationship, and (c) said name stored in the temporary name element is copied to said second Relationship, and wherein said first instance synchronizes with a second instance and sends a duo of change units representing, in order, (i) the new name for said first Relationship and (ii) the new name for said second Relationship, and wherein effecting the first change of said duo of changes results in an attempted change having an error in the second instance because a result of said first change is for the first Relationship and the second Relationship having the same name, a method by which said second instance proceed to copy said name of the first Relationship to a local temporary name element and:

        if, during the synchronization, a subsequent change is received for copying the name of said second Relationship to said first relationship, then performing said change as well as also copying said name in said local temporary name element to said first Relationship; and

        if, during the synchronization, a subsequent change is not received for copying the name of said second Relationship to said first relationship, then raising a conflict regarding for the attempted change.

Claim 10 (Previously presented): The method of claim 1 wherein, for synchronization between a first instance on a storage platform that allows a dangling relative reference and a second instance on a storage platform that does not allow a dangling relative reference that include at least one change to a relative reference and at least one other change, sending said change to said relative references after said one other changes.

Claim 11 (Currently amended): A system implemented at least in part by a computing device for synchronizing a plurality of instances for a data platform, said system comprising:

a subsystem for storing a plurality of items in a first instance of a data platform, each item stored in the first instance includes at least one change unit, wherein the data platform is configured to track changes to change units;

a subsystem for storing, by the first instance of the data platform, a change to a first change unit of a first item, wherein the first item is a child of a parent item and the first item and the parent item are included in the plurality of items;

a subsystem for storing, by the first instance of the data platform after the change to the first change unit of the first item, a change to a parent change unit of the parent item;

a subsystem for uniquely enumerating, by the first instance of the data platform, changes in sequential order sequence on an instance by instance basis using wherein each change is identified by a change number;

a subsystem for maintaining, by the first instance of the data platform, a separate vector, wherein the separate vector corresponds to the enumerated changes to the first instance of the data platform, and a most recent known change number of a second instance of the data platform, wherein the separate vector represents all changes that have been made to the first instance of the data platform; for each instance, each vector comprising a most recent change number for its associated instance, and a most recent known change number for each other instances from among said plurality of instances that are known to said associated instance, each being a known instance, wherein said vector represents all changes that have been made to said associated instance; and

a subsystem for receiving, by the first instance of the data platform from the second instance of the data platform, a synchronization request, wherein the synchronization request includes a second vector associated with the second instances of the data platform;

a subsystem for determining, by the first instance of the data platform, that the second instance of the data platform does not include the change to the first change unit of the first item and the change to the parent change unit of the parent item in accordance with the second vector; and

a subsystem for transmitting, by the first instance of the data platform, the change to the parent change unit of the parent item prior to transmitting the change to the first change unit of the first item.

~~a storage device for storing each vector~~.

Claim 12 (Original): The system of claim 11 wherein said change number comprises a unique identification number for said instance and a relative incremental count of changes made to said instance.

Claim 13 (Original): The system of claim 11 further comprising a subsystem wherein a first instance, to partially synchronize with a second instance, requests changes from said second instance by sending to said second instance its vector, and wherein said second instance, based on the vector it receives from said first instance, sends to said first instance only those changes that said first vector has not yet received.

Claim 14 (Previously presented): The system of claim 13 further comprising a subsystem wherein said second instance, based on the vector it receives from said first instance, further determines that said first instance has changes that said second instance has not yet received, and sends its own vector to said first instance to request these changes, and wherein said first instance, based on the vector it receives from said second instance, sends to said second instance only those changes that said second vector has not yet received.

Claim 15 (Previously presented): The system of claim 11 further comprising a subsystem wherein a first instance, when changing a first Item to relate via a Relationship to a second Item that was not previously being synchronized, to send all change information pertaining to said second Item to a second instance when synchronizing with said second instance so that said second Item in said second instance is synchronized with said second Item in said first instance.

Claim 16 (Canceled)

Claim 17 (Original): The system of claim 11 further comprising a subsystem wherein, for an Item deleted by a first instance, a tombstone comprising the identification of the Item deleted is created, and said tombstone is sent as part of a synchronization to notify a second instance to identify the Item to be deleted in said second instance.

Claim 18 (Previously presented): The system of claim 17 further comprising a subsystem wherein, for a first instance having a parent Item and a first child Item to said parent Item, when said child Item is deleted and then said parent Item is deleted, said first instance sending only the change to said parent Item to a second instance during a synchronization where (a) the deletion of a parent Item automatically results in the deletion of all children Items for said parent or (b) the second instance, receiving the tombstone for the parent Item, proceeds to delete the parent Item and automatically deletes the child Item.

Claim 19 (Previously presented): The system of claim 11, further comprising a subsystem wherein a first Relationship and a second Relationship of a first instance swap names using a temporary name element such that, in order, (a) the name of the first Relationship is transferred to said temporary name element, (b) the name of the second Relationship is transferred to said first Relationship, and (c) said name stored in the temporary name element is copied to said second Relationship, and wherein said first instance synchronizes with a second instance and sends a duo of change units representing, in order, (i) the new name for said first Relationship and (ii) the new name for said second Relationship, and wherein effecting the first change of said duo of changes results in an attempted change having an error in the second instance because a result of said first change is for the first Relationship and the second Relationship having the same name, a method by which said second instance proceed to copy said name of the first Relationship to a local temporary name element and:

if, during the synchronization, a subsequent change is received for copying the name of said second Relationship to said first relationship, then performing said change as well as also copying said name in said local temporary name element to said first Relationship; and

if, during the synchronization, a subsequent change is not received for copying the name of said second Relationship to said first relationship, then raising a conflict regarding for the attempted change.

Claim 20 (Previously presented): The system of claim 11 further comprising a subsystem wherein, for synchronization between a first instance on a storage platform that allows a dangling relative reference and a second instance on a storage platform that does not allow a dangling relative reference that include at least one change to a relative reference and at least one other change, sending said change to said relative references after said one other changes.

Claim 21 (Previously presented): A computer-readable storage medium comprising computer-readable instructions for synchronizing a plurality of instances for a data platform, said computer-readable instructions comprising instructions for:

storing a plurality of items in a first instance of a data platform, each item stored in the first instance includes at least one change unit, wherein the data platform is configured to track changes to change units;

storing, by the first instance of the data platform, a change to a first change unit of a first item, wherein the first item is a child of a parent item and the first item and the parent item are included in the plurality of items;

storing, by the first instance of the data platform after the change to the first change unit of the first item, a change to a parent change unit of the parent item;

uniquely enumerating, by the first instance of the data platform, changes to change units in sequential order in sequence on an instance by instance basis using wherein each change is identified by a change number;

maintaining, by the first instance of the data platform, a separate vector, wherein the separate vector corresponds to the enumerated changes to the first instance of the data platform, and a most recent known change number of a second instance of the data platform, wherein the separate vector represents all changes that have been made to the first instance of the data platform; for each instance, each vector comprising a most recent change number for its associated instance, and a most recent known change number for each other instances from among said plurality of instances that are known to said associated instance, each being a known instance, wherein said vector represents all changes that have been made to said associated instance; and

receiving, by the first instance of the data platform from the second instance of the data platform, a synchronization request, wherein the synchronization request includes a second vector associated with the second instances of the data platform;

determining, by the first instance of the data platform, that the second instance of the data platform does not include the change to the first change unit of the first item and the change to the parent change unit of the parent item in accordance with the second vector; and

transmitting, by the first instance of the data platform, the change to the parent change unit of the parent item prior to transmitting the change to the first change unit of the first item.

outputting each vector to a storage device.

Claim 22 (Previously presented): The computer-readable storage medium of claim 21 further comprising instructions for said change number to comprises a unique identification number for said instance and a relative incremental count of changes made to said instance.

Claim 23 (Previously presented): The computer-readable storage medium of claim 21 further comprising instructions for partially synchronizing a first instance with a second instance with said first instance requesting changes from said second instance by sending to said second instance its vector, and wherein said second instance, based on the vector it receives from said first instance, sends to said first instance only those changes that said first vector has not yet received.

Claim 24 (Previously presented): The computer-readable storage medium of claim 23, wherein said second instance, based on the vector it receives from said first instance, further comprises instructions for said second instance to determine that said first instance has changes that said second instance has not yet received, and sends its own vector to said first instance to request these changes, and wherein said first instance, based on the vector it receives from said second instance, sends to said second instance only those changes that said second vector has not yet received.

Claim 25 (Previously presented): The computer-readable storage medium of claim 21 further comprising instructions for a first instance, when changing a first Item to relate via a Relationship to a second Item that was not previously being synchronized, to send all change information pertaining to said second Item to a second instance when synchronizing with said second instance so that said second Item in said second instance is synchronized with said second Item in said first instance.

Claim 26 (Canceled)

Claim 27 (Previously presented): The computer-readable storage medium of claim 21 further comprising instructions for wherein, for an Item deleted by a first instance, a tombstone comprising the identification of the Item deleted is created, and said tombstone is sent as part of a synchronization to notify a second instance to identify the Item to be deleted in said second instance.

Claim 28 (Previously presented): The computer-readable storage medium of claim 27 further comprising instructions for wherein, for a first instance having a parent Item and a first child Item to said parent Item, when said child Item is deleted and then said parent Item is deleted, said first instance sending only the change to said parent Item to a second instance during a synchronization where (a) the deletion of a parent Item automatically results in the deletion of all children Items for said parent or (b) the second instance, receiving the tombstone for the parent Item, proceeds to delete the parent Item and automatically deletes the child Item.

Claim 29 (Previously presented): The computer-readable storage medium of claim 21 further comprising instructions for, wherein a first Relationship and a second Relationship of a first instance swap names using a temporary name element such that, in order, (a) the name of the first Relationship is transferred to said temporary name element, (b) the name of the second Relationship is transferred to said first Relationship, and (c) said name stored in the temporary name element is copied to said second Relationship, and wherein said first instance synchronizes with a second instance and sends a duo of change units representing, in order, (i) the new name for said first Relationship and (ii) the new name for said second Relationship, and wherein effecting the first change of said duo of changes results in an attempted change having an error in the second instance because a result of said first change is for the first Relationship and the second Relationship having the same name, a method by which said second instance proceed to copy said name of the first Relationship to a local temporary name element and:

if, during the synchronization, a subsequent change is received for copying the name of said second Relationship to said first relationship, then performing said change as well as also copying said name in said local temporary name element to said first Relationship; and

if, during the synchronization, a subsequent change is not received for copying the name of said second Relationship to said first relationship, then raising a conflict regarding for the attempted change.

Claim 30 (Previously presented): The computer-readable storage medium of claim 21 further comprising instructions for wherein, for synchronization between a first instance on a storage platform that allows a dangling relative reference and a second instance on a storage platform that does not allow a dangling relative reference that include at least one change to a relative reference and at least one other change, sending said change to said relative references after said one other changes.